**Sci9 Lab – Using properties** Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

You are a crime scene technician. You’ve been given a sample of what looks like wax, and you’ve been asked to determine what type of wax it is. You know the following properties of waxes:

|  |  |  |
| --- | --- | --- |
| **Soy wax** | **Beeswax** | **Microcrystalline wax** |
| Melting point: 48 oC | Melting point: 62 oC | Melting point: 76-83 oC |
| Density: 0.90 g/mL | Density: 0.96 g/mL | Density: 0.93 g/mL |
| Texture: slippery, soft | Texture: slightly sticky, hard | Texture: sticky, hard |

Design an experiment to help you identify the wax. Your experiment may involve several tests.  
For each experiment, come up with a procedure that explains all the steps and equipment you will use. Look back at previous labs to help you. Write down your procedure and get your teacher to check it. Then, do the experiment and record your data.

Set up your page like this:

Date

Names

**Purpose:** (explain what you’re trying to do)

**TEST 1:**

***Procedure*** 1. (write the steps)  
 2.

***Data and observations***:

* Label your data, include units. Describe what you see

***Calculations:***

* If needed. Show your work.

**TEST 2:**   
Same as above.

**Experiment Title**

After you’ve filled those in, add a conclusion (see over)

***Conclusion:***

Can you identify the type of wax? Make a claim, support it with evidence (which data   
 and observations helped you decide, and how did you know? How confident are you?

***Sources of error:***

Reflect on your experiment. What could you change to get better data? Are there any  
other tests or information that would have helped you to be more confident in your investigation?

**ASSESSMENT:**

|  |  |  |
| --- | --- | --- |
| **COMPETENCY** | **To be proficient…** | **Your work is:** |
| **PLAN & CONDUCT** | -designed a controlled experiment to get relevant data  -data is detailed, accurate, and objective. Includes units -used equipment properly | IE EMG DEV PRO |
| **COMMUNICATE** | -followed the lab report format to communicate process  -your claim is correct -you have provided appropriate evidence from your data  and explained your decision process | IE EMG DEV PRO |
| **EVALUATE** | -you have made thoughtful observations about your procedure’s strengths and weaknesses, and about the complexity of the problem. -you have made suggestions for improvement | IE EMG DEV PRO |